

**REMARKS**

Reconsideration and withdrawal of the objections to and the rejections of this application in view of the amendments and remarks herewith, is respectfully requested, as the changes place the application in condition for allowance.

**I. Status of the Claims and Formal Matters**

Claims 1-22 are under examination in this application. Claims 1, 3, 4, 12, 15, and 17 have been amended, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents. No new matter has been added by these amendments. Support for these amendments is found throughout the specification.

**II. THE REJECTIONS UNDER 35 U.S.C. § 102(a) ARE OVERCOME**

Claims 1-2 and 12-20 are rejected under 35 U.S.C. § 102(a) as being anticipated by Mulroy et al. Claims 1 and 8-11 are rejected under 35 U.S.C. § 102(a) as being anticipated by and Melki et al.

Enclosed herewith are the executed Declarations under 37 CFR § 1.131 of the inventors of the instant application. During their employment in the United States at either The General Hospital Corporation or the Massachusetts Eye and Ear Infirmary, they conceived of the subject matter of the instant application prior to March 1999, the publication dates of Melki et al., "Photochemical Tissue Repair (Welding) of Clear Cornea Incision," March (1999) IVOS, Vol440, No. 4:s340, Abstract 1803-B711 and Mulroy et al., "Photochemical Tissue Bonding for Corneal Repair and Transplants," 27<sup>th</sup> Annual Meeting of the American Society for Photobiology, Abstract MPM-E21 March (1999).

The conception in the U.S. of the subject matter of the instant application is evidenced, at least in part, by a draft grant application (also enclosed), which proposed experiments designed to improve the methods for "securing skin grafts to wound beds and to introduce a new method for repairing blood vessels." Specifically, the draft grant application indicated an experiment plan to "attach skin graft material to a prepared tissue bed using photochemical tissue bonding" and to "join several blood vessels using photochemical tissue bonding and a biocompatible sleeve."

It is respectfully submitted that that Melki et al. and Mulroy et al. are antedated and should be removed from consideration as prior art. Applicants request that and that all rejections under 35 U.S.C. § 102(a) are withdrawn.

**REQUEST FOR INTERVIEW**

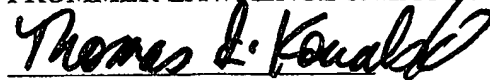
If any issue remains as an impediment to allowance, an interview, with supervisory review, e.g., with the Examiner, the Primary Examiner, and the Examiner's SPE and/or a Practice Specialist, is respectfully requested prior to issuance of any paper other than a Notice of Allowance. The Examiner is additionally respectfully requested to telephonically contact the undersigned to arrange a mutually convenient time and manner for the interview. The Examiner is also invited to telephonically contact the undersigned if there are any minor, formal issues that need resolving prior to issuance of a Notice of Allowance, with a view towards resolving such minor, formal issues via telephonic interview.

**CONCLUSION**

In view of the amendments, remarks and Declarations herewith, the application is in condition for allowance. Favorable reconsideration of the application, reconsideration, and withdrawal of the objections and rejections, and prompt issuance of a Notice of Allowance are respectfully requested.

Respectfully submitted,  
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**APPENDIX**

1. A method for creating a tissue seal, comprising:  
identifying a tissue in need of repair;  
contacting the tissue, and optionally a second tissue, with at least one  
photosensitizer agent to form a tissue-photosensitizer mixture; and  
applying electromagnetic energy to the tissue-photosensitizer mixture in a manner  
effective to produce cross linking of a protein in the tissue,  
wherein the tissue is not contacted with an exogenous protein, peptide or polymer which  
is cross linked by the application of electromagnetic energy,  
thereby creating a tissue seal.
2. The method of claim 1, wherein the tissue is corneal tissue.
3. The method of claim 1, wherein at least one photosensitizer agent is selected from  
the group consisting of Rose Bengal, riboflavin-5-phosphate, toluidine blue and N-  
hydroxypyridine-2-(1H)-thione.
4. The method of claim 1, wherein at least one photosensitizer agent is Rose Bengal.
5. The method of claim 1, wherein the contacting step occurs *ex vivo*.
6. The method of claim 1, wherein the contacting step occurs *in vivo* in a subject.
7. The method of claim 6, wherein the subject is a human.
8. The method of claim 1, wherein the application of electromagnetic energy to the  
tissue-photosensitizer mixture occurs without substantial thermal tissue damage.

9. The method of claim 1, wherein the application of electromagnetic energy to the tissue-photosensitizer mixture occurs without more than a 3°C rise in temperature.

10. The method of claim 1, wherein the application of electromagnetic energy to the tissue-photosensitizer mixture occurs without more than a 2°C rise in temperature.

11. The method of claim 1, wherein the application of electromagnetic energy to the tissue-photosensitizer mixture occurs without more than a 1°C rise in temperature.

12. A method for repairing a corneal lesion, comprising:  
contacting a corneal tissue with at least one photosensitizer agent to form a corneal tissue-photosensitizer mixture; and  
applying electromagnetic energy to the corneal tissue-photosensitizer mixture in a manner effective to elicit the production of a reactive species from the photosensitizer,  
wherein the corneal tissue is not contacted with an exogenous protein, peptide or polymer which is cross-linked by the application of electromagnetic energy,  
thereby promoting a partial or complete repair of the corneal lesion.

13. The method of claim 12, wherein the corneal lesion is caused by a surgical procedure.

14. The method of claim 13, wherein the surgical procedure is selected from the group consisting of corneal transplant surgery, cataract surgery, laser surgery, keratoplasty, LASIK, refractive surgery, cornea reshaping, and treatment of corneal laceration.

15. The method of claim 12, wherein the electromagnetic energy applied is less than 200 J/cm<sup>2</sup>.

16. The method of claim 12, wherein the electromagnetic energy is applied at an irradiance less than 3.5 W/cm<sup>2</sup>.

17. A method for repairing a corneal lesion *in vivo* in a living subject, comprising:  
contacting a corneal tissue with Rose Bengal (RB) to form a corneal tissue-RB mixture; and  
applying electromagnetic energy to the corneal tissue-RB mixture in a manner effective to elicit the production of a reactive species from the RB,  
wherein the corneal tissue is not contacted with an exogenous protein, peptide or polymer which is cross-linked by the application of electromagnetic energy,  
thereby promoting a partial or complete repair of the corneal lesion.
18. The method of claim 17, wherein the subject is a human.
19. The method of claim 17, wherein the corneal lesion is caused by a surgical procedure.
20. The method of claim 19, wherein the surgical procedure is selected from the group consisting of corneal transplant surgery, cataract surgery, laser surgery, keratoplasty, LASIK, refractive surgery, cornea reshaping, and treatment of corneal laceration.